

January 31, 2007 amendment
Application Serial No.: 9/287,664

Amendments to the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (previously presented) A process for forming an oxide composition comprising oxidizing a composition which is gaseous at a temperature below about 200° C. at atmospheric pressure, and which is adapted to deposit at least a first layer of an oxide and silicon oxide onto glass at a rate of deposition greater than about 350 Å/sec. wherein the composition comprises a precursor of tin oxide a precursor of silicon oxide of the formula $R_mO_nSi_p$ where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbon atoms, and phenyl or substituted phenyl, an accelerant selected from the group consisting of organic phosphites, organic borates, and water, and mixtures thereof and a source of oxygen.

Claim 2 (previously presented) The process of claim 1, adapted to deposit at least a first layer comprising tin oxide and silicon oxide onto transparent flat glass at a temperature of from 450 ° to about 650° C.

Claim 3 (previously presented) The process of claim 1, adapted to deposit at least a first layer comprising tin oxide and silicon oxide onto transparent flat glass to produce a glass article having essentially no reflected color in daylight.

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Claim 4 (previously presented) The process of claim 1, adapted to continuously deposit at least a first layer comprising tin oxide and silicon oxide onto a continuously moving transparent flat glass substrate.

Claim 5 (previously presented) The process of claim 1 where said composition is gaseous at a temperature below about 175° C.

Claim 6 (previously presented) The process of claim 1 wherein the organic phosphite and the organic borate have the formula $(R''O)_3P$ and $(R''O)_3B$ where R'' is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons, phenyl, substituted phenyl, or $R'''CH_2CH_2-$, where R''' is MeO_2C- , EtO_2C- , CH_3CO- or $HOOC-$.

Claim 7 (previously presented) The process of claim 1 wherein the precursor of the tin oxide is R_nSnX_{4-n} , where R is a straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons, phenyl, substituted phenyl, or $R'CH_2CH_2-$, where R' is MeO_2C- , EtO_2C- , CH_3CO- or $HOOC-$; X is selected from the group consisting of halogen, acetate, perfluoroacetate, and their mixtures and where n is 0, 1, or 2.

Claim 8 (previously presented) The process of claim 1 wherein the precursor of the tin oxide is an alkyltin halide.

Claim 9 (previously presented) The process of claim 1 wherein the precursor of the tin

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oxide is an alkyltin chloride.

Claim 10 (previously presented) The process of claim 1 wherein the precursor of the tin oxide is chosen from the group consisting of monobutyltin trichloride, dibutyltin dichloride, tributyltin chloride, and tin tetrachloride.

Claim 11 (previously presented) The process of claim 1 wherein the precursor of silicon oxide is selected from the group consisting of tetraethylorthosilicate, diacetoxy-t-butoxysilane, ethyltriacetoxysilane, methyltriacetoxysilane, methyldiacetoxysilane, tetramethyldisiloxane, tetramethylcyclotetrasiloxane, dipinacoloxysilane, 1,1-dimethylsila-2-oxacyclohexane, tetrakis(1-methoxy-2-propoxy) silane, and triethoxysilane.

Claim 12 (previously presented) The process of claim 1 wherein the precursor of silicon oxide is tetraethylorthosilicate.

Claim 13 (previously presented) The process of claim 1 wherein the accelerant comprises triethylphosphite.

Claim 14 (previously presented) The process of claim 1 wherein the accelerant comprises triethylphosphite and triethylborate.

Claim 15 (previously presented) The process of claim 1 adapted to deposit at least a first layer of tin oxide and silicon oxide onto glass at a rate of deposition greater than about 400 Å/sec.

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Claim 16 (previously presented) The process of claim 1 adapted to deposit at least a first amorphous layer of tin oxide and silicon oxide onto a layer of glass.

Claim 17 (previously presented) The process of claim 1 adapted to deposit a plurality of layers comprising tin oxide and silicon oxide onto glass, the outermost layer of which is further adapted for deposit of at least a second layer.

Claim 18 (previously presented) The process of claim 17 adapted to deposit a plurality of layers comprising tin oxide and silicon oxide onto glass, the outermost layer of which is further adapted for deposit of a layer comprising tin oxide.

Claim 19 (previously presented) The process of claim 17 adapted to deposit a plurality of layers comprising tin oxide and silicon oxide onto glass, the outermost layer of which is further adapted for deposit of a layer comprising tin oxide and fluorine.

Claim 20 (previously presented) The process of claim 17 wherein the second layer comprises a doped tin oxide.

Claim 21 (previously presented) The process of claim 17 wherein said plurality of layers are deposited from a precursor mixture comprising monobutyltin trichloride, tetraethyl orthosilicate, and triethyl phosphite.

Claim 22 (previously presented) The process of claim 1 adapted to deposit at least a

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full layer comprising tin oxide and silicon oxide onto glass, said first layer having a refractive index which changes continuously between the glass substrate and the top of the layer.

Claim 23 (previously presented) A process for forming an oxide composition comprising oxidizing a composition which is gaseous at a temperature below about 200° C. at atmospheric pressure, and which is adapted to deposit at least a first amorphous layer comprising tin oxide and silicon oxide onto glass at a rate of deposition greater than about 400 Å/sec. the layer having a controlled index of refraction, wherein the composition comprises a tin oxide precursor a silicon oxide precursor of the formula $R_mO_nSi_p$ where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbon atoms, and phenyl or substituted phenyl, and at least one accelerant selected from the group consisting of boron and phosphorous esters and water.

Claim 24 (previously presented) The process of claim 23, adapted to continuously deposit at least a first layer comprising tin oxide and silicon oxide onto a continuously moving flat glass substrate at a temperature of from 450 ° to about 650° C., and comprising monobutyltin trichloride, tetraethyl orthosilicate and an accelerant..

Claim 25 (previously presented) A process for forming an oxide composition comprising oxidizing a composition which is gaseous at a temperature below about 200° C. and at atmospheric pressure, and which is adapted to deposit at least a first layer comprising amorphous tin oxide and silicon oxide onto glass at a temperature of from about 450 ° to about 650° C. a rate of deposition greater than about 350 Å/sec. wherein the composition comprises:

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a tin oxide precursor of formula R_nSnX_{4-n} , where R is a straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons, phenyl, substituted phenyl or $R'CH_2CH_2-$, where R' is MeO_2C- , EtO_2C- , CH_3CO- or $HOOC-$; X is selected from the group consisting of halogen, acetate, perfluoroacetate, and their mixtures and where n is 0, 1, or 2.

a silicon oxide precursor of formula $R_mO_nSi_p$ where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbon atoms, and phenyl or substituted phenyl;

one or more accelerants selected from the group consisting of water and organic phosphites and organic borates of the formula $(R''O)_3P$ and $(R''O)_3B$ where R'' is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons, phenyl, substituted phenyl, or $R'''CH_2CH_2-$, where R''' is MeO_2C- , EtO_2C- , CH_3CO- or $HOOC-$ and a source of oxygen.

Claim 26 (previously presented) A process according to claim 25 wherein the precursor of the tin oxide is an alkyl tin halide, the precursor of the silicon oxide is tetraethylorthosilicate, diacetoxym-t-butoxysilane, ethyltriacetoxysilane, methyl diacetoxysilane, methyltriacetoxysilane, tetramethyldisiloxane, tetramethylcyclotetrasiloxane, dipinacoloxysilane, 1,1-dimethylsila-2-oxacyclohexane, tetrakis(1-methoxy-2-propoxy) silane, or triethoxysilane, and the accelerant comprises one or both of triethyl phosphite and triethyl borate.

Claim 27 (previously presented) A process according to claim 26 in which the tin oxide precursor comprises monobutyltin trichloride, the silicon oxide precursor comprises tetraethyl orthosilicate, and the accelerant comprises triethyl phosphite.

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Claims 28-32 (cancelled without prejudice or disclaimer)